# Transportation Concept Report

## State Route 182

## District 09

## April 2016


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**California Department of Transportation**
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Approvals:

| | | | |
|---|---|---|---|
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# State Route 182

**Transportation Concept Report**

Prepared
By
Caltrans District 9
Office of System Planning


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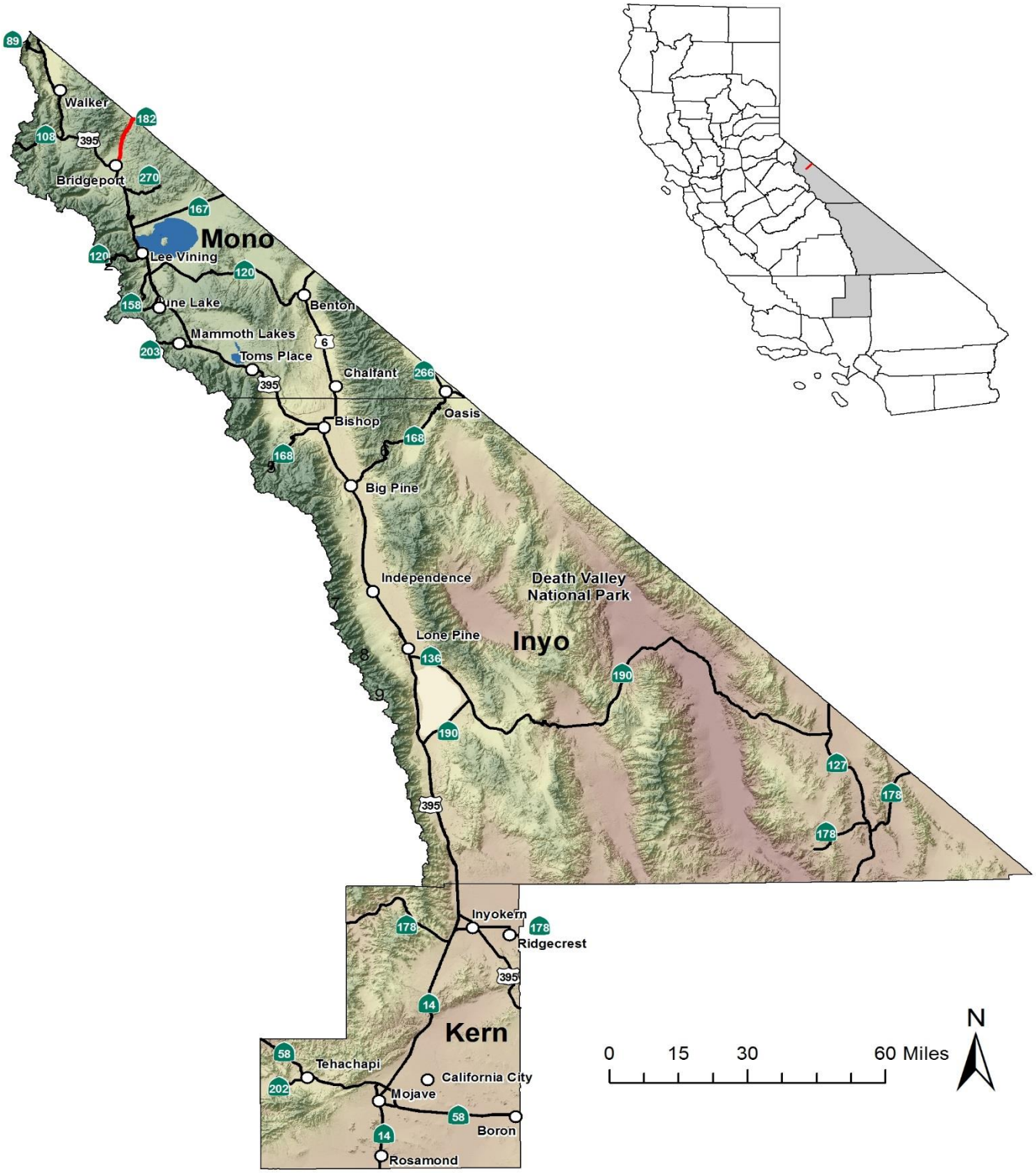
**Caltrans District 9**



# ABOUT THE TRANSPORTATION CONCEPT REPORT

System Planning is the long-range transportation planning process for the California Department of Transportation (Caltrans). The System Planning process fulfills Caltrans' statutory responsibility as owner/operator of the State Highway System (SHS) (Gov. Code §65086) by evaluating conditions and proposing enhancements to the SHS. Through System Planning, Caltrans focuses on developing an integrated multimodal transportation system that meets Caltrans' goals of safety and health; stewardship and efficiency; sustainability, livability and economy; system performance; and organizational excellence.

The System Planning process is primarily composed of four parts: the District System Management Plan (DSMP), the Transportation Concept Report (TCR), the Corridor System Management Plan (CSMP), and the DSMP Project List. The district-wide **DSMP** is strategic policy and planning document that focuses on maintaining, operating, managing, and developing the transportation system. The **TCR** is a planning document that identifies the existing and future route conditions as well as future needs for each route on the SHS. The **CSMP** is a complex, multi-jurisdictional planning document that identifies future needs within corridors experiencing or expected to experience high levels of congestion. The CSMP serves as a TCR for segments covered by the CSMP. The **DSMP Project List** is a list of planned and partially programmed transportation projects used to recommend projects for funding. These System Planning products are also intended as resources for stakeholders, the public, and partner, regional, and local agencies.

### TCR Purpose

California's State Highway System needs long range planning documents to guide the logical development of transportation systems as required by CA Gov. Code §65086 and as necessitated by the public, stakeholders, and system users. The purpose of the TCR is to evaluate current and projected conditions along the route and communicate the vision for the development of each route in each Caltrans District during a 20-25 year planning horizon. The TCR is developed with the goals of increasing safety, improving mobility, providing excellent stewardship, and meeting community and environmental needs along the corridor through integrated management of the transportation network, including the highway, transit, pedestrian, bicycle, freight, operational improvements and travel demand management components of the corridor.

# STAKEHOLDER PARTICIPATION

Internal and external stakeholder participation was sought throughout the development of the State Route (SR) 182 TCR. As information for the TCR was gathered, some stakeholders were contacted for input related to their particular specializations, and to verify data sources used and data accuracy. Prior to document finalization, primary stakeholders were asked to review the document for consistency with existing plans, policies, and procedures. The process of including and working closely with stakeholders adds value to the TCR, allows for external input and ideas to be reflected in the document, increases credibility, and helps strengthen public support and trust. Stakeholders in the SR 182 planning area are community member and agencies, including, but not limited to:

- Army Corps of Engineers (USACE)
- Bridgeport Regional Planning Advisory Committee (RPAC)
- Bureau of Land Management (BLM)
- California Department of Fish and Wildlife (CDFW)
- Lahontan Regional Water Quality Control Board (LRWQCB)
- Mono County Local Transportation Commission (LTC)
- Native American Tribes
- Nevada Department of Transportation
- US Forest Service (USFS)
- Walker River Irrigation District (WRID)

# EXECUTIVE SUMMARY

State Route (SR) 182 is a two-lane conventional hightway that is part of the State Freeway & Expressway system (California Streets & Highways Code Section 250-257). SR 182 begins at the junction of US 395 near Bridgeport in Mono County extending 12.65 miles to the Nevada state line. It is a northeasterly major collector linking Mason Valley and eastern Nevada to US 395 in California. Light commericial and rural goods movement share SR 182 with recreational travelers and local traffic. Also, SR 182 functions as an alternate route in the event of emergency closures on US 395. Segment 1 of the route provides access to Bryant Field Airport, Bridgeport Indian Colony, local housing, and recreational areas around Bridgeport Reservoir. Segment 2 provides access to the central-western Nevada region. Recent traffic data was analyzed throughout this document using 2014 as a base year (BY) and 2034 as a horizon year (HY) for projecting operational conditions.

## Concept Summary

| Segment | Segment Description | Existing Facility | 20-25 Year Facility Concept |
|---|---|---|---|
| 1 | Junction at US 395 Near Bridgeport to End of Bridgeport Reservoir | 2C | 2C, Widen Shoulders and Maintain |
| 2 | End of Bridgeport Reservoir to Nevada State Line | 2C | 2C, Widen Shoulders and Maintain |

TABLE 1: CONCEPT SUMMARY

## Concept Rationale

The Bridgeport Indian Colony is in the early stage of planning future developments on federal trust land along the highway. The route receives relatively low traffic volume and an increase is not foreseen in the near future. The majority of the land in the area is publicly owned (96%) and growth will be very slow if it is to occur at all. For these reasons, the route is expected to remain a two-lane, conventional highway.

## Proposed Projects and Strategies

Currently, there are no planned or programmed projects for SR 182. Maintaining the current facility, including a cold in-place recycle (CIR) project, is the long range strategy for this route. Raising the grade, PM 7.2/8.5, to avoid flooding during heavy runoff years is a recommended route improvement. In addition, widening shoulders to improve the route for all modes of transportation and delineating access to the route in the area of the Bridgeport Reservoir for the ingress and egress of recreational travelers is recommended. Furthermore, Mono County's 2015 Regional Transportation Plan proposes enlarging the existing turnout/parking area and including interpretive facilities at the Bridgeport Reservoir.

**Near Bridgeport Reservoir at PM 3.35**

# CORRIDOR OVERVIEW

## ROUTE SEGMENTATION

For the purpose of this report, SR 182 is divided into two segments.

| Segment # | Location Description | County_Route_ Beg. PM | County_Route_ End PM |
|---|---|---|---|
| 1 | Junction at US 395 Near Bridgeport to End of Bridgeport Reservoir | MNO_182_0.00 | MNO_182_5.10 |
| 2 | End of Bridgeport Reservoir to Nevada State Line | MNO_182_5.10 | MNO_182_12.65 |

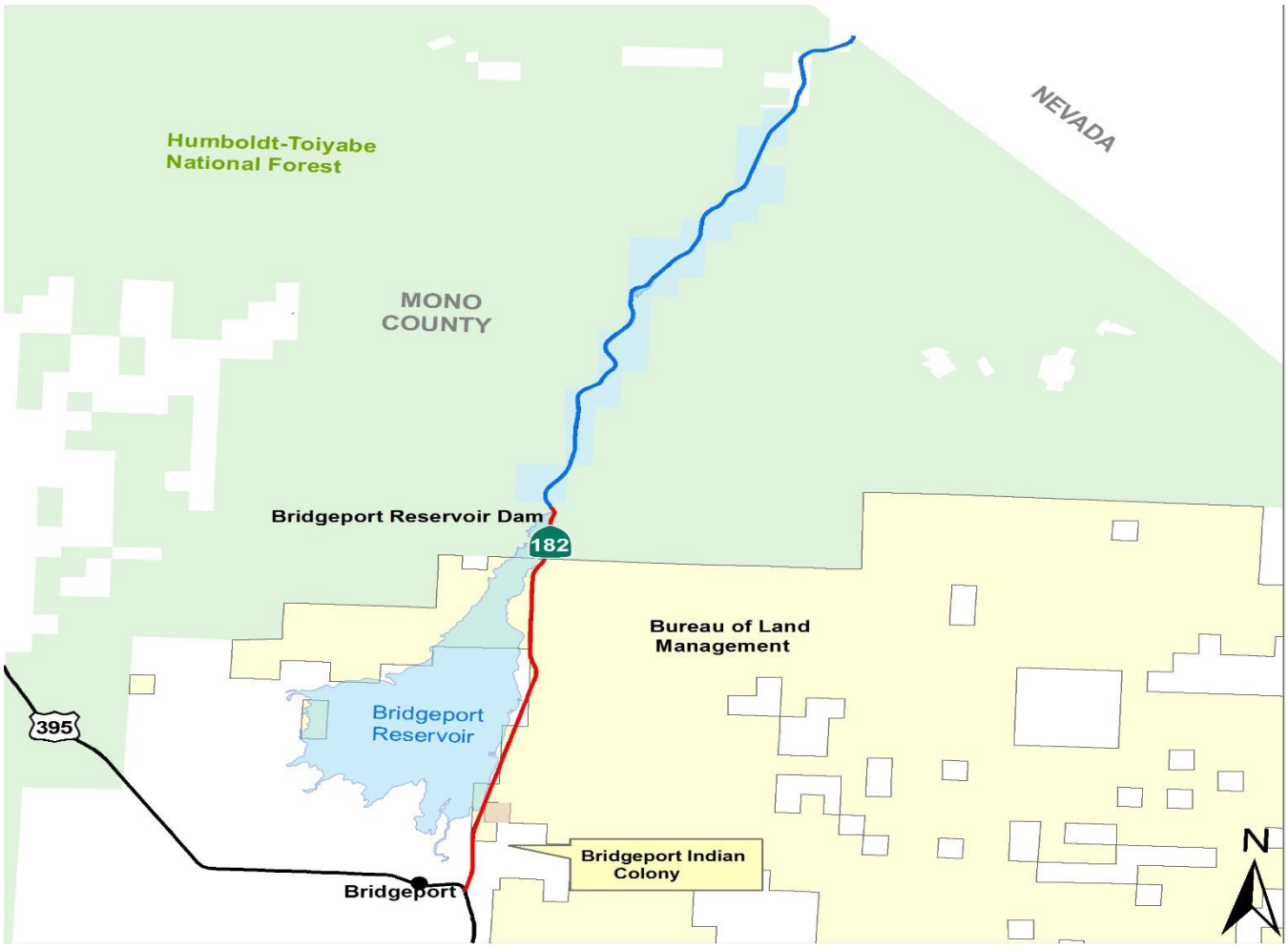
TABLE 2: ROUTE SEGMENTATION

## ROUTE DESCRIPTION

**Route Location:**
SR 182 begins at the junction of US 395, near Bridgeport in Mono County, and runs in a northeasterly direction for 12.65 miles to the Nevada state line. The first segment of the route (PM 0.00 to 5.10) provides access to Bryant Field Airport, Bridgeport Indian Colony, local housing, the Bridgeport Reservoir, and recreational areas around the reservoir. The Bridgeport Reservoir is located adjacent to SR 182 on the Eat Walker River and has one privately owned marina/camp ground and a privately owned RV Park. The second segment of the route (PM 5.10 to 12.56) ends at the state line and provides access Nevada State Route 338. This segment is adjacent to the East Walker River and the Humboldt Toiyabe National Forest.

**Route Purose:**
SR 182 serves the Bridgeport Valley, and Paradise Shores RV Park & Marina communities  The route provides access to recreational opportunities for tourists visiting Bridgeport Valley and facilitates the movement of goods, people and resources from California to Nevada.  Along SR 182, there are many recreational opportunities available at the Bridgeport Reservoir, wetlands and associated natural resources in the surrounding area. SR 182 is identified as an alternate route when US 395 is closed in Walker Canyon, north of Bridgeport.  It carries light commercial and rural goods movement  and  is identified as a  Terminal Access (Surface Transportation Assistance Act) route.  Pedestrians and bicyclists are allowed on all of SR 182 as it is a shared roadway.

**Major Route Features:**
SR 182 is functionally classified as a Major Collector and is a two-lane conventional hightway with speed limits ranging from 45 to 60 miles per hour.  There are unrestricted and undefined ingress and egress access points  at the reservoir on the northwest side of the highway and at the East Walker River. A 33 feet long and 13.2 feet wide bridge, built in 1996, spanning the East Walker River at PM 6.20  is part of the second segment.  Both segments serve trucks as a Terminal Access route I'd delete this sentence since you just pointed this out in the previous paragraph. The road is well maintained via annual crack sealing projects. There is no Transportaton Management Systems (TMS) element or elecetric vehicle charging station identified on the route.




**Segment Map**
Segment 1 (PM 00.00/5.10)  Segment 2 (PM 5.10/12/65)

## Route Designations and Characteristics:

| | | | |
|---|---|---|---|
| **Segment #** | | 1 | 2 |
| **Freeway & Expressway System – California Streets & Highways Code Section 250-257** | | No | No |
| **National Highway System** | | No | No |
| **Strategic Highway Network** | | No | No |
| **Scenic Highway** | | No | No |
| **Interregional Road System** | | No | No |
| **Priority Interregional Highway** | | No | No |
| **Federal Functional Classification** | | Major Collector | Major Collector |
| **Goods Movement Route** | | Yes | Yes |
| **Truck Designation** | | Terminal Access | Terminal Access |
| **Rural/Urban/Urbanized** | | Rural | Rural |
| **Metropolitan Planning Organization** | | N/A | N/A |
| **Regional Transportation Planning Agency** | | Mono County LTC | Mono County LTC |
| **County Transportation Commission** | | N/A | N/A |
| **Local Agency** | | Mono County | Mono County |
| **Tribes** | **Federally Recognized** | Bridgeport Indian Colony<br>Washoe Tribe of Nevada<br>Tuolumne Band of Me-Wuk Indians | Bridgeport Indian Colony<br>Washoe Tribe of Nevada<br>Tuolumne Band of Me-Wuk Indians |
| | **Non-Federally Recognized** | Mono Lake Kutzadikaa | Mono Lake Kutzadikaa |
| **Air District** | | Great Basin Unified Air Pollution Control District | Great Basin Unified Air Pollution Control District |
| **Terrain** | | Flat | Rolling |

TABLE 3: ROUTE DESIGNATION

**East Walker River Bridge at PM 6.20**

## COMMUNITY CHARACTERISTICS

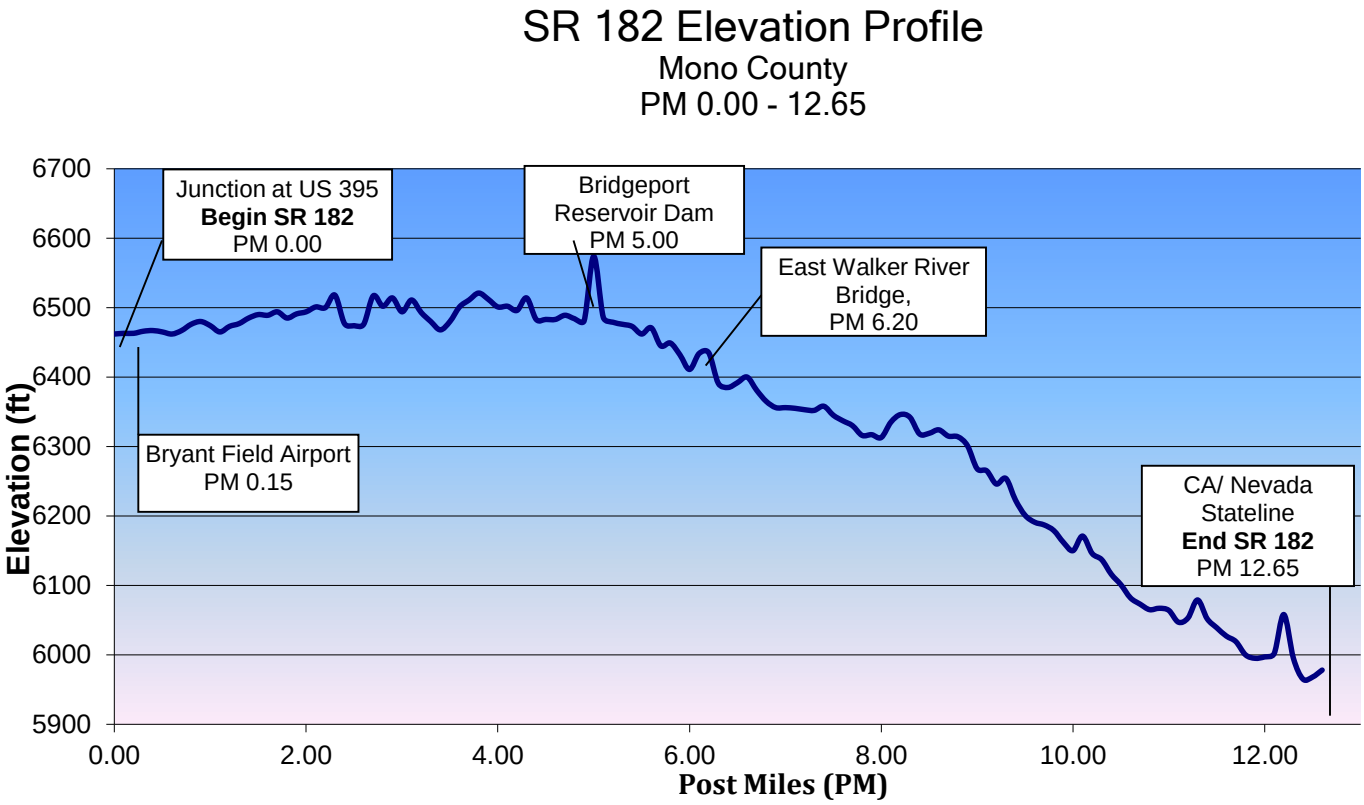
Bridgeport Valley and Paradise Shores RV Park & Marina are the two communities along the first segment of SR 182. The Bridgeport Valley community population is 575 and the population of Paradise community is 153. There is a significant amount of high-quality agricultural land in the Bridgeport Valley, all of which is privately owned. The recreational opportunities in these communities are fishing, hunting, kayaking, boating, sailing and bird watching. There is a recreational area, Bridgeport Ballfields & Skate Park in the first segment of the route with-in one mile at Aurora Canyon Road. It is maintained by the Mono County Department of Public Works.

Bridgeport Indian Colony is a federally recognized Native American tribe with land adjacent to SR 182. The Bridgeport Indian Colony is in the early stages of planning for a recreation center at the southeast corner of the SR 182 and Sagebrush Drive intersection (Segment 1). Other opportunities including an interagency conference room, office space and potential RV Park are potentioal projects according to Bridgeport Indian Colony. Also, in the first segment, the Bridgeport Reservoir and Bryant Field Airport are located near SR 182. A major portion of the East Walker River on SR 182, one of the best trophy brown trout streams in California, flanks the second segment of the route. In 1994, the CA Department of Fish and Wildlife purchased seven miles of riverfront property to preserve public access for fishing.

**Bridgeport Valley community at PM 0.20**

## LAND USE

Land use along the route is predominately agricultural, resource management, open space, and low density residential. About 96% of the land is publicly owned and, as a result, there will be little private development. The Bureau of Land Management (BLM) and the US Forest Service (USFS) own and manage the public lands along the route. Most of the private land around SR 182 is centered around the Bridgeport Valley and Paradise communities. Forty acres of land is held by the Bridgeport Indian Colony, a federal Reservation, adjacent to the route at Bridgeport. The Bridgeport Indian Colony is looking in to potential land use developments including a recreation center and RV park. The elevation of SR 182 varies between 5950 and 6560 feet




**Segment 1: PM 0.00-5.10; Segment 2: PM 5.11-12.65**

## SYSTEM CHARACTERISTICS

SR 182 is a two-lane conventional highway for its entire lenth. The majority of the road is smooth and well maintained with posted speed limits from 45 to 60 mph (Segment 1 is 45 to 60 mph while Segment 2 is 55 mph). The average paved shoulder width is 2 to 3 feet, except at the East River Bridge location (PM 6.00 to 6.42) where the shoulder width is 8 to 12 feet. The average lane width is 11 feet and the facility is undivided.

| Segment # | 1 | 2 |
|---|---|---|
| **Existing Facility** | | |
| **Facility Type** | C | C |
| **General Purpose Lanes** | 2 | 2 |
| **Lane Miles** | 10.20 | 15.10 |
| **Centerline Miles** | 5.10 | 7.55 |
| **Median Width** | 0 | 0 |
| **Median Characteristics** | undivided | undivided |
| **Distressed Pavement** | 5% | 5% |
| **Current ROW** | 50-400 ft. | 50-400 ft |
| **Concept Facility** | | |
| **Facility Type** | C | C |
| **General Purpose Lanes** | 2 | 2 |
| **Lane Miles** | 10.20 | 15.10 |
| **Centerline Miles** | 5.10 | 7.55 |
| **Passing Lanes** | 0 | 0 |
| **Truck Climbing Lanes** | 0 | 0 |
| **TMS Elements** | | |
| **TMS Elements (BY)** | 0 | 0 |
| **TMS Elements (HY)** | 0 | 0 |

TABLE 4: SYSTEM CHARACTERISTCS

**Near East Walker Stock Drive at PM 6.00**

## BICYCLE FACILITY

Bicycles are allowed on all of SR 182 as it is a shared roadway. There is no bikeway designation nor any dedicated bike lanes existing on the route. According to Mono County's 2015 Regional Transportation Plan, a bikeway to the state line is a potential project. Providing wider shoulders to accodomdate a bicycle lane is a challenge due to prioritization of funding, environmental concerns, unbalanced cost to benefit ratios, and physical constraints.

| **Segment** | 1 | 2 |
|---|---|---|
| **Post Mile** | 0.00/5.10 | 5.10/12.65 |
| **Bicycle Access Prohibited** | No | No |
| **Facility Type** | None | None |
| **Outside Paved Shoulder Width** | 2-3 ft | 2-3 ft<br>8-12 ft PM 6.00/6.42 |
| **Posted Speed Limit** | 45-60 mph | 55 mph |

TABLE 5: BICYCLE FACILITY

## PEDESTRIAN FACILITY

Pedestrian traffic is allowed, but is minimal on SR 182. Specific pedestrian facilities or sidewalks do not exist. Pedestrians may utilize the pave and unpaved shoulder.

| **Segment** | 1 | 2 |
|---|---|---|
| **Pedestrian Access Prohibited** | No | No |
| **Sidewalk Present** | No | No |

TABLE 6: PEDESTRIAN FACILITY

## TRANSIT FACILITY

The Inyo-Mono Dial-a-Ride bus service is the public transportation provider in Mono County and is the only service available for the route.

## FREIGHT

SR 182 provides access for light commercial and rural goods movement. It is identified as a Terminal Access (STAA) route where STAA trucks may exit off the highway and travel onto state and local routes. Average truck traffic is 13% of the Average Annual Daily Traffic (AADT) for both segments with most trucks classified as 2 axles.

## ENVIRONMENTAL CONSIDERATIONS

The purpose of this environmental scan is to identify environmental factors that may need future analysis during the project development process. This information does not represent all possible environmental considerations that may exist within the area surrounding the route and any SR 182 project being considered for programming would require environmental clearance in compliance with all federal, state, and local environmental laws and regulations. The environmental factors identified in the environmental scan have been scaled (high, medium or low) by district staff based on the probability of encountering such environmental issues.

The following environmental factors were included in the scan:

- **Air Quality:** Mono County is part of the Great Basin Valleys Air Basin under the stewardship of the Great Basin Unified Air Pollution Control District. For air quality measures of the State of California and National Ambient Air Quality Standards (NAAQS), this area is at unclassifiable/attainment for ozone (8 hour) and particulate matter (PM-10) .

- **Cultural Resources**: An appropriate level of archaeological and cultural studies, including Native American consultation, will be required for any project along this route, as well as the assessment and possible mitigation for all cultural resource impacts. SR 182 travels adjacent to the Federally Recognized Native American tribal land of Bridgeport Indian Colony.

- **Floodplain**: The Special Flood Hazard Areas (SFHA) maps as designated by the Federal Emergency Management Agency's (FEMA) National Flood Insurance Program were evaluated. Segment 1 from PM 0.00 to PM 4.8 is designated as a 100 year flood risk by FEMA.

- **Geology/Soils/Seismic**: SR 182 crosses over one unnamed minor fault near the East Walker River from PM 2.8 to PM 4.4 in Segment 1. Another unnamed minor fault runs along SR 182 from PM 4.9 to 6.2, spanning Segments 1 and 2. Two other unnamed minor faults are identified at PM 7.6 and at 8.6 in Segment 2 near the East Walker River.

- **Recreational Land:** Threre is a recrerational area, Bridgeport Ballfields & Skate Park, in the first segement of SR 182 within one mile of the route at Aurora Canyon Road. It is operated and maintained by the Mono County Department of Public Works.

- **Species Considerations:** The following species of plants and animals are listed as either special concern, threatened or endangered within a 1000 feet wide corridor centered along SR 182:
  - American manna grass-Glyceria grandis
  - Bodie Hills cuisckiella-Cusickiella quadricostata
  - Intermontane lupine – Lupinus pusillus var.intermountanus
  - Lahontan Cuttthroat Trout-Oncorhynchus clarkia henshawi
  - Lavin's milk-vetc-Astragalus oophorus var. lavinii
  - Masonic Mountain jewel-flower-Streptanthus oliganthus
  - Migratory birds (vasious species)
  - Prairie wedge grass-Sphenopholis obtusata
  - Sierra Nevada Yellow legged frog-rana sierra
  - Yosemite toad-anaxyrus canorus

- **Water and Wetlands:** East Walker River runs along SR 182, from PM 4.9 to the end of the route. There are several wetlands (Freshwater Forested/Shrub Wetland) throughout the route and two lakes located in the first segment.

- **Wild and Scenic Rivers**: The wildlife areas begin near the north end of Bridgeport Reservoir and straddle the highway and East Walker River for seven miles, nearly to the Nevada border. This wildlife area is approximately 1,400 acres of wetlands and riparian habitat. The river valley is a migration corridor for the East Walker mule deer herd.

| S e gment #<blue background row> | Cultural Resources | Geology/Soils/ Seismic | Floodplain | PM Air Quality | | | | Recreational Land | Waters and Wetlands | Wild and Scenic Rivers | Special Status Species |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ozone | 2.5 | 10 | CO | | | | |
| 1 | *High* | *Low* | *Med* | *Unclassified/Attainment* | *Unclassifiable/Attainment* | *Unclassifiable/Attainment* | *Unclassifiable/Attainment* | *High* | *High* | *Low* | *Med* |
| 2 | *High* | *Low* | *No* | | | | | *High* | *High* | *Low* | *Med* |

TABLE 7: EVNIRONMENTAL CONSIDERATIONS

# CORRIDOR PERFORMANCE

The Corridor Performance table displays volume data for the Base Year (BY) 2014 and the Horizon Year (HY) 2034. Level of Service (LOS) was calculated using the Highway Capacity Manueal 2010. The route presently operates at LOS A and is expected to operate at the same level through the horizon year . Primarily, this is due to low traffic volumes.

| Segment # | 1 | 2 |
|---|---|---|
| **Basic System Operations** | | |
| AADT (BY) | 1050 | 275 |
| AADT (HY) | 1166 | 305 |
| AADT: Growth Rate/Year | 0.50% | 0.50% |
| LOS Method | HCM | HCM |
| LOS (BY) | A | A |
| LOS (HY) | A | A |
| LOS Concept | A | A |
| VMT (BY) | 5355 | 2076 |
| VMT (HY) | 5947 | 2303 |

| Truck Traffic | | |
|---|---|---|
| **Total Average Annual Daily Truck Traffic (AADTT) (BY)** | 138 | 38 |
| **Total Average Annual Daily Truck Traffic (AADTT) (HY)** | 153 | 42 |
| **Total Trucks (% of AADT) (BY)** | 13.15% | 13.85% |
| **Total Trucks (% of AADT)(HY)** | 13.20% | 13.85% |
| **5+ Axle Average Annual Daily Truck Traffic (AADTT)(BY)** | 4 | 1 |
| **5+ Axle Trucks (as % of AADT)(BY)** | 2.90% | 2.90% |
| **Peak Hour Traffic Data** | | |
| **Peak Period Length** | 1 Hour | 1 Hour |
| **Peak Hour Direction** | NB | NB |
| **Peak Hour Time of Day** | PM | PM |
| **Peak Hour Directional Split (BY)** | 58/42 | 53/47 |
| **Peak Hour VMT (BY)** | 2151 | 453 |
| **Peak Hour VMT (HY)** | 2391 | 506 |
| **Peak Hour (BY)** | 170 | 60 |
| **Peak Hour (HY)** | 189 | 67 |

TABLE 8: CORRIDOR PERFORMANCE

# KEY CORRIDOR ISSUES

Widening shoulders is a recommended route improvement to better accommodate all modes of transportation. Routine maintenance and pavement preservation will constitute the majority of work on SR 182, including chip seals, thin blanket overlays and fog seals. The aggressive thermal cracking through segment 1 can be addressed with a cold in-place recycle (CIR). From PM 7.2 to 8.5, the highway is subject to flooding during heavy runoff years and it is exacerbated by beaver dams. Raising the grade through this area is the best way to address the flooding issue. Also it would be beneficial to pave turnouts, to better accommodate truck parking and aid with maintenance activities such as mowing and grading.

# CORRIDOR CONCEPT

## CONCEPT RATIONALE

Other than the Bridgeport Indian Colony's future developments on federal trust land along the highway, no significant growth or development is anticipated in the SR 182 corridor within the TCR's 20-year scope of concern. The route receives relatively low traffic volume and an increase is not foreseen in the near future. The majority of the land in the area is publicly owned (96%) and growth will be very slow if it is to occur at all. For these reasons, the concept for SR 182 is expected to remain a two-lane, conventional highway and it is projected that this will continue to meet the forecasted demand.

## PLANNED AND PROGRAMMED PROJECTS AND STRATEGIES

Currently, there are no planned or programmed projects for SR 182.

## PROJECTS AND STRATEGIES TO ACHIEVE CONCEPT

| Seg.# | Description | Location | Source | Purpose | Implementation Phase |
|---|---|---|---|---|---|
| 1 | Widen Shoulders to 8 feet | US 395 to Bridgeport Reservoir (PM 0.00/5.10) | Caltrans Recommendation | Operational Improvement | Mid Term |
| 1 | Access Delineation | Bridgeport Reservoir (PM 5.00) | Caltrans Recommendation | System Management | Mid Term |
| 1 | CIR (cold in-place recycle) | US 395 to Bridgeport Reservoir (PM 0.00/5.10) | Caltrans Recommendation | Maintenance Improvement | Long Term |
| 2 | Pave Turnouts | PM 8.50 (NB)<br>PM 12.00 (SB) | Caltrans Recommendation | Operational and Maintenance Improvement | Mid Term |
| 2 | Widen Shoulder to 5 feet | Bridgeport Reservoir to state line (PM 5.10/12.65) | Caltrans Recommendation | Operational Improvement | Long Term |
| 2 | Raise Grade | PM 7.2/8.5 | Caltrans Recommendation | Maintenance Improvement | Long Term |
| 1 & 2 | Install Bicycle Route Signage | US 395 JCT to state line (PM 0.00/12.65) | Caltrans Recommendation | Complete Streets | Long Term |

TABLE 9: PROJECTS AND STRATEGIES

# APPENDIX

## APPENDIX A
## GLOSSARY OF TERMS AND ACRONYMS

### Acronyms

**2C** – Two-Lane Conventional Highway
**AADT** – Annual Average Daily Traffic
**AADTT** – Annual Average Daily Truck Traffic
**APL**– Approved Project List
**BLM** – Bureau of Land Management
**BY** – Base Year
**Caltrans** – California Department of Transportation
**CAPM** – Capital Preventative Maintenance
**CBD** – Central Business District
**CDFW** – California Department of Fish and Wildlife
**CDP** – Census-Designated Place
**CESA** – California Endangered Species Act
**CMS** – Changeable Message Sign
**CNPS** – California Native Plant Society
**CNDDB** – California Natural Diversity Database
**DFW** – Department of Fish and Wildlife
**DSMP** – District System Management Plan
**ESA** – Endangered Species Act
**ESTA** – Eastern Sierra Transit Authority
**FEMA** – Federal Emergency Management Agency
**FHWA** – Federal Highway Administration
**HCM** – Highway Capacity Manual
**HY** – Horizon Year
**IRRS** – Interregional Road System Route
**IUCN** – International Union of Conservation of Nature
**KPRA** – Kingpin-to-rear-axle distance
**LOS** – Level of Service
**MMTP** – Multi-Modal Transportation Plan
**MNO** – Mono County
**MPH** – Miles per Hour
**N/A** – Not Applicable
**NB** – Northbound
**PM** – Post Mile or Particulate Matter
**R** – (prefix to Post Mile) Realigned
**R/W** or **ROW**– Right-of-Way
**RMP** – Resource Management Plan
**RTP** – Regional Transportation Plan
**SB** – Southbound
**SDC** – Seismic Design Category
**SFHA** – Special Flood Hazard Area
**SR** – State Route

**SSC** – Species of Special Concern
**TCR** – Transportation Concept Report
**USFS** – United States Forest Service
**VMT** – Vehicle Miles Traveled
**YARTS** – Yosemite Area Regional Transportation System

## Definitions

**AADT** – Annual Average Daily Traffic is the total volume for the year divided by 365 days. The traffic count year is from October 1st through September 30th. Traffic counting is generally performed by electronic counting instruments moved from location throughout the state in a program of continuous traffic count sampling. The resulting counts are adjusted to an estimate of annual average daily traffic by compensating for seasonal influence, weekly variation and other variables which may be present. Annual ADT is necessary for presenting a statewide picture of traffic flow, evaluating traffic trends, computing accident rates, planning and designing highways and other purposes.

**Base Year (BY)** – The year that the most current data is available to the districts.

**Bikeway Class I (Bike Path)** – Provides a completely separated right of way for the exclusive use of bicycles and pedestrians with cross flow by motorists minimized.

**Bikeway Class II (Bike Lane)** – Provides a striped lane for one-way bike travel on a street or highway.

**Bikeway Class III (Bike Route)** – Provides for shared use with pedestrian or motor vehicle traffic.

**Bottlenecks** – A bottleneck is a location where traffic demand exceeds the effective carrying capacity of the roadway. In most cases, the cause of a bottleneck relates to a sudden reduction in capacity, such as a lane drop, merging and weaving, driver distractions, a surge in demand, or a combination of factors.

**Capacity** – The maximum sustainable hourly flow rate at which persons or vehicles reasonably can be expected to traverse a point or a uniform section of a lane or roadway during a given time period under prevailing roadway, environmental, traffic, and control conditions.

**Capital Facility Concept** – The 20-25 year vision of future development on the route to the capital facility. The capital facility can include capacity increasing, state highway, bicycle/pedestrian/transit facility, grade separation, and new managed lanes.

**Concept LOS** – The minimum acceptable LOS over the next 20-25 years.

**Conceptual Project** – A conceptual improvement or action is a project that is needed to maintain mobility or serve multimodal users, but is not currently included in a financially constrained plan and is not currently programmed. It could be included in a general plan or in the unconstrained section of a long-term plan.

**Corridor** – A broad geographical band that follows a general directional flow connecting major sources of trips that may contain a number of streets, highways, bicycle, pedestrian, and transit route alignments. Off system facilities are included as informational purposes and not analyzed in the TCR.

**Facility Concept** – Describes the facility and strategies that may be needed within 20-25 years. This can include capacity increasing, state highway, bicycle/pedestrian/transit facility, non-capacity increasing operational improvements, new managed lanes, conversion of existing managed lanes to another managed lane type or characteristic, TMS field elements, and transportation demand/incident management.

**Facility Type** – The facility type describes the state highway facility type. The facility could be freeway, expressway, conventional, or one-way city street.

**Freight Generator** – Any facility, business, manufacturing plant, distribution center, industrial development, or other location (convergence of commodity and transportation system) that produces significant commodity flow, measured in tonnage, weight, carload, or truck volume.

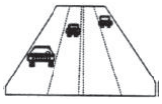
**Headway –** The time between two successive vehicles as they pass a point on the roadway, measured from the same common feature of both vehicles.

**Horizon Year (HY)** – The year that the future (20-25 years) data is based on.

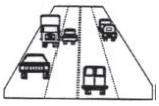
**Intermodal Freight Facility** – Intermodal transport requires more than one mode of transportation. An intermodal freight facility is a location where different transportation modes and networks connect and freight is transferred (or "transloaded") from one mode, such as rail, to another, such as truck.

**ITS –** Intelligent Transportation System improves transportation safety and mobility and enhances productivity through the integration of advanced communications technologies into the transportation infrastructure and in vehicles. Intelligent transportation systems encompass a broad range of wireless and wire line communications-based information and electronics technologies to collect information, process it, and take appropriate actions.

**Level of Service (LOS)** – Level of Service is a qualitative measure describing operational conditions within a traffic stream and their perception by motorists. A LOS definition generally describes these conditions in terms of speed, travel time, freedom to maneuver, traffic interruption, comfort, and convenience. Six levels of LOS can generally be categorized as follows:



**LOS A** describes free-flowing conditions. The operation of vehicles is virtually unaffected by the presence of other vehicles, and operations are constrained only by the geometric features of the highway.



**LOS B** is also indicative of free-flow conditions. Average travel speeds are the same as in LOS A, but drivers have slightly less freedom to maneuver.

**LOS C** represents a range in which the influence of traffic density on operations becomes marked. The ability to maneuver with the traffic stream is now clearly affected by the presence of other vehicles.

**LOS D** demonstrates a range in which the ability to maneuver is severely restricted because of the traffic congestion. Travel speed begins to be reduced as traffic volume increases.

**LOS E** reflects operations at or near capacity and is quite unstable. Because the limits of the level of service are approached, service disruptions cannot be damped or readily dissipated.

**LOS F** a stop and go, low speed conditions with little or poor maneuverability. Speed and traffic flow may drop to zero and considerable delays occur. For intersections, LOS F describes operations with delay in excess of 60 seconds per vehicle. This level, considered by most drivers unacceptable often occurs with oversaturation, that is, when arrival flow rates exceed the capacity of the intersection.

**Multimodal** – The availability of transportation options using different modes within a system or corridor, such as automobile, bus, bicycle, or equestrian.

**Peak Hour** – The hour of the day in which the maximum volume occurs across a point on the highway.

**Peak Hour Volume** – The hourly volume during the highest hour traffic volume of the day traversing a point on a highway segment. It is generally between 6 percent and 10 percent of the Annual Daily Traffic (ADT). The lower values are generally found on roadways with low volumes.

**Peak Period** – Is a part of the day during which traffic congestion on the road is at its highest. Normally, this happens twice a day, once in the morning and once in the evening; the time periods when the most people commute. Peak Period is defined for individual routes, not a District or statewide standard.

**Planned Project** – A planned improvement or action is a project in a financially constrained section of a long term plan, such as an approved Regional Transportation Plan (RTP), Capital Improvement Plan, or bond measure program.

**Post-25 Year Concept** – This dataset may be defined and re-titled at the District's discretion. In general, the Post-25 Year concept could provide the maximum reasonable and foreseeable roadway needed beyond a 20-25 year horizon. The post-25 year concept can be used to identify potential widening, realignments, future facilities, and rights-of-way required to complete the development of each corridor.

**Post Mile** – A post mile is an identified point on the State Highway System. Post mile values increase from the beginning of a route within a county to the next county line and start over again at each county line. Post mile values usually increase from south to north or west to east depending upon the general direction the route follows within the state. The post mile at a given location will remain the same year after year. When a section of road is relocated, new post miles (usually noted by an alphabetical prefix such as "R" or "M") are established. If relocation results in a length change, "post mile equations" are introduced at the end of each relocated portion so that post miles on the remainder of the route within the county remain unchanged. Post miles are measured in miles.

**Programmed Project** – A programmed improvement or action is a project in a near term programming document identifying funding amounts by year, such as the State Transportation Improvement Program or the State Highway Operations and Protection Program.

**Railroad Class I** – The Surface Transportation Board (STB) defines a Class I railroad in the U.S. as a carrier having annual operating revenues of $250 million or more. This class includes the nation's major railroads.

In California, Class I railroads include Union Pacific Railroad (UP) and Burlington Northern Santa Fe Railway (BNSF).

**Railroad Class II** – STB defines a Class II railroad in the U.S. as having annual carrier operating revenues of less than $250 million but more than $20 million. Class II railroads are considered mid-sized freight-hauling railroad in terms of operating revenues. They are considered "regional railroads" by the Association of American Railroads.

**Railroad Class III** – Railroads with annual carrier operating revenues of $20 million or less. The typical Class III is a short line railroad, which feeds traffic to or delivers traffic from a Class I or Class II railroad.

**Route Designation** – A route's designation is adopted through legislation and identifies what system the route is associated with on the State Highway System. A designation denotes what design standards should apply during project development and design. Typical designations include, but are not limited to, National Highway System (NHS), Interregional Route System (IRRS), and Scenic Highway System.

**Rural** – Fewer than 5,000 in population designates a rural area. Limits are based upon population density as determined by the U.S. Census Bureau.

**Segment** – A portion of a facility between two points.

**System Operations and Management Concept** – System Operations and Management Concept – Describe the system operations and management elements that may be needed within 20-25 years. This can include Non-capacity increasing operational improvements (Aux. lanes, channelization's, turnouts, etc.), conversion of existing managed lanes to another managed lane type or characteristic (e.g. HOV land to HOT lane), TMS Field Elements, Transportation Demand Management, and Incident Management.

**TDM** – Transportation Demand Management programs designed to reduce or shift demand for transportation through various means, such as the use of public transportation, carpooling, telework, and alternative work hours. Transportation Demand Management strategies can be used to manage congestion during peak periods and mitigate environmental impacts.

**TMS** – Transportation Management System is the business processes and associated tools, field elements and communications systems that help maximize the productivity of the transportation system. TMS includes, but is not limited to, advanced operational hardware, software, communications systems and infrastructure, for integrated Advanced Transportation Management Systems and Information Systems, and for Electronic Toll Collection System.

**Urban** – 5,000 to 49,999 in population designates an urban area. Limits are based upon population density as determined by the U.S. Census Bureau.

**Urbanized** – Over 50,000 in population designates an urbanized area. Limits are based upon population density as determined by the U.S. Census Bureau.

**Vehicle Miles Traveled (VMT)** – Is the total number of miles traveled by motor vehicles on a road or highway segments.

**APPENDIX B**
**FACTSHEET**


SR 182 begins at the junction of US 395 near Bridgeport in Mono County extending 12.65 miles to the Nevada state line. Segment 1 of the route provides access to Bryant Field Airport, Bridgeport Indian Colony, local housing, and recreational areas around Bridgeport Reservoir. Segment 2 provides access to the central-western Nevada region.

## PROJECTS AND STRATEGIES TO ACHIEVE CONCEPT

| Seg.# | Description | Location | Source | Purpose | Implementation Phase |
|---|---|---|---|---|---|
| 1 | Widen Shoulders to 8 feet | US 395 to Bridgeport Reservoir (PM 0.00/5.10) | Caltrans Recommendation | Operational Improvement | Mid Term |
| 1 | Access Delineation | Bridgeport Reservoir (PM 5.00) | Caltrans Recommendation | System Management | Mid Term |
| 1 | CIR (cold in-place recycle) | US 395 to Bridgeport Reservoir (PM 0.00/5.10) | Caltrans Recommendation | Maintenance Improvement | Long Term |
| 2 | Pave Turnouts | PM 8.50 (NB) PM 12.00 (SB) | Caltrans Recommendation | Operational and Maintenance Improvement | Mid Term |
| 2 | Raise Grade | PM 7.2/8.5 | Caltrans Recommendation | Maintenance Improvement | Long Term |
| 2 | Widen Shoulder to 5 feet | Bridgeport Reservoir to state line (PM 5.10/12.65) | Caltrans Recommendation | Operational Improvement | Long Term |
| 1 & 2 | Install Bicycle Route Signage | US 395 JCT to state line (PM 0.00/12.65) | Caltrans Recommendation | Complete Streets | Long Term |

| Corridor Performance | | |
|---|---|---|
| **Segment #** | 1 | 2 |
| **Basic System Operations** | | |
| **AADT (BY)** | 1050 | 275 |
| **AADT (HY)** | 1166 | 305 |
| **AADT: Growth Rate/Year** | 0.50% | 0.50% |
| **LOS Method** | HCM | HCM |
| **LOS (BY)** | A | A |
| **LOS (HY)** | A | A |
| **LOS Concept** | A | A |
| **VMT (BY)** | 5355 | 2076 |
| **VMT (HY)** | 5947 | 2303 |
| **Truck Traffic** | | |
| **Total Average Annual Daily Truck Traffic (AADTT) (BY)** | 138 | 38 |
| **Total Average Annual Daily Truck Traffic (AADTT) (HY)** | 153 | 42 |
| **Total Trucks (% of AADT) (BY)** | 13.15% | 13.85% |
| **Total Trucks (% of AADT)(HY)** | 13.20% | 13.85% |
| **5+ Axle Average Annual Daily Truck Traffic (AADTT)(BY)** | 4 | 1 |
| **5+ Axle Trucks (as % of AADT)(BY)** | 2.90% | 2.90% |
| **Peak Hour Traffic Data** | | |
| **Peak Period Length** | 1 Hour | 1 Hour |
| **Peak Hour Direction** | NB | NB |
| **Peak Hour Time of Day** | PM | PM |
| **Peak Hour Directional Split (BY)** | 58/42 | 53/47 |
| **Peak Hour VMT (BY)** | 2151 | 453 |
| **Peak Hour VMT (HY)** | 2391 | 506 |
| **Peak Hour (BY)** | 170 | 60 |
| **Peak Hour (HY)** | 189 | 67 |

| System Characteristics | | |
|---|---|---|
| **Segment #** | **1** | **2** |
| **Existing Facility** | | |
| **Facility Type** | C | C |
| **General Purpose Lanes** | 2 | 2 |
| **Lane Miles** | 10.20 | 15.10 |
| **Centerline Miles** | 5.10 | 7.55 |
| **Median Width** | 0 | 0 |
| **Median Characteristics** | undivided | undivided |
| **Distressed Pavement** | 5% | 5% |
| **Current ROW** | 50-400 ft. | 50-400 ft |
| **Concept Facility** | | |
| **Facility Type** | C | C |
| **General Purpose Lanes** | 2 | 2 |
| **Lane Miles** | 10.20 | 15.10 |
| **Centerline Miles** | 5.10 | 7.55 |

| Bicycle Facility | | |
|---|---|---|
| **Segment** | 1 | 2 |
| **Post Mile** | 0.00/5.10 | 5.10/12.65 |
| **Bicycle Access Prohibited** | No | No |
| **Facility Type** | None | None |
| **Outside Paved Shoulder Width** | 2-3 ft | 2-3 ft<br>8-12 ft PM<br>6.00/6.42 |
| **Posted Speed Limit** | 45-60 mph | 55 mph |

| Pedestrian Facility | | |
|---|---|---|
| **Segment** | 1 | 2 |
| **Pedestrian Access Prohibited** | No | No |
| **Sidewalk Present** | No | No |

**Environmental Considerations**

| **S e gment #<blue background row>** | **Cultural Resources** | **Geology/Soils/ Seismic** | **Floodplain** | **Air Quality** | | | | **Recreational Land** | **Waters and Wetlands** | **Wild and Scenic Rivers** | **Special Status Species** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | **Ozone** | **PM** | | **CO** | | | | |
| | | | | | **2.5** | **10** | | | | | |
| 1 | *High* | *Low* | *Med* | *Unclassified/Attainment* | *Unclassifiable/Attainment* | *Unclassifiable/Attainment* | *Unclassifiable/Attainment* | *High* | *High* | *Low* | *Ned* |
| 2 | *High* | *Low* | *No* | | | | | *High* | *High* | *Low* | *Med* |

| Route Designations and Characteristics | | | |
|---|---|---|---|
| **Segment #** | | 1 | 2 |
| **Freeway & Expressway System –**<br>**California Streets & Highways Code Section 250-257** | | No | No |
| **National Highway System** | | No | No |
| **Strategic Highway Network** | | No | No |
| **Scenic Highway** | | No | No |
| **Interregional Road System** | | No | No |
| **Priority Interregional Highway** | | No | No |
| **Federal Functional Classification** | | Major Collector | Major Collector |
| **Goods Movement Route** | | Yes | Yes |
| **Truck Designation** | | Terminal Access | Terminal Access |
| **Rural/Urban/Urbanized** | | Rural | Rural |
| **Metropolitan Planning Organization** | | N/A | N/A |
| **Regional Transportation Planning Agency** | | Mono County LTC | Mono County LTC |
| **County Transportation Commission** | | N/A | N/A |
| **Local Agency** | | Mono County | Mono County |
| **Tribes** | **Federally Recognized** | Bridgeport Indian Colony<br>Washoe Tribe of Nevada<br>Tuolumne Band of Me-Wuk Indians | Bridgeport Indian Colony<br>Washoe Tribe of Nevada<br>Tuolumne Band of Me-Wuk Indians |
| | **Non-Federally Recognized** | Mono Lake Kutzadikaa | Mono Lake Kutzadikaa |
| **Air District** | | Great Basin Unified Air Pollution Control District | Great Basin Unified Air Pollution Control District |
| **Terrain** | | Flat | Rolling |

## APPENDIX C
## RESOURCES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United States Geological Survey, Seismic Design Maps for International Residential Code (2006 & 2009), Coterminous US

United States Geological Survey, California Volcano Observatory <http://volcanoes.usgs.gov/observatories/calvo/